

## ABSTRACT OF THE DISCLOSURE

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An ESD protection structure having sided single crystal Si junction diode for protecting an internal circuit. The ESD protection structure is electrically coupled between an input pad and a node, and the internal circuit is electrically coupled to the node. The ESD protection structure includes at least a single crystal Si resistor, which is formed over an insulating material layer and electrically coupled between the input pad and the node. The ESD protection structure further includes at least a single crystal Si-sided junction diode, which is formed over the insulating material layer and electrically coupled between one terminal of corresponding power supply and the node.

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